BS EN 2997-015:2011

BSI Standards Publication

Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures — 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak

Part 015: Jam-nut mounted receptacle with integrated accessory - Product standard

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ACE/6, Aerospace avionic electrical and fibre optic technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Série aérospatiale - Connecteurs électriques circulaires à accouplement par bague filetée, résistant au feu ou non, températures d'utilisation - 65 °C à 175 °C continu, 200 °C continu, 260 °C en pointe - Partie 015 : Embase à fixation par écrou avec accessoire intégré - Norme de produit

Luft- und Raumfahrt - Elektrische Rundsteckverbinder mit Schraubkupplung, feuerbeständig oder nicht feuerbeständig, Betriebstemperaturen - 65 °C bis 175 °C konstant, 200 °C konstant, 260 °C Spitze - Teil 015: Fester Steckverbinder mit Mutternbefestigung und integriertem Endgehäuse - Produktnorm

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Contents

Page

Foreword

This document (EN 2997-015:2011) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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1 Scope

This European Standard specifies the characteristics of jam-nut mounted receptacles with integrated accessory in the family of circular electrical connectors coupled by threaded ring.

It applies to the class defined in Table 4.

For contacts, filler plugs associated with this receptacle see EN 2997-002. For plugs, see EN 2997-008 and EN 2997-016, for protective covers, see EN 2997-009, for spare jam-nuts, see EN 2997-012 and for o-rings, see EN 2997-013.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2997-001:2006, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 001: Technical specification*

EN 2997-002, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 002: Specification of performance and contact arrangements*

EN 2997-008, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 008: Plug — Product standard*

EN 2997-009, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 009: Protective cover for receptacle — Product standard*

EN 2997-012, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 012: Jam-nut for jam-nut receptacles — Product standard*

EN 2997-013, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 013: O-ring seal for jam-nut receptacles — Product standard*

EN 2997-016, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures − 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 016: Plug with integrated accessory — Product standard*

EN 3155-002, *Aerospace series — Electrical contacts used in elements of connection — Part 002: List and utilization of contacts*

ISO 263, *ISO inch screw threads — General plan and selection for screws, bolts and nuts — Diameter range 0,06 to 6 in*

3 Terms and definitions

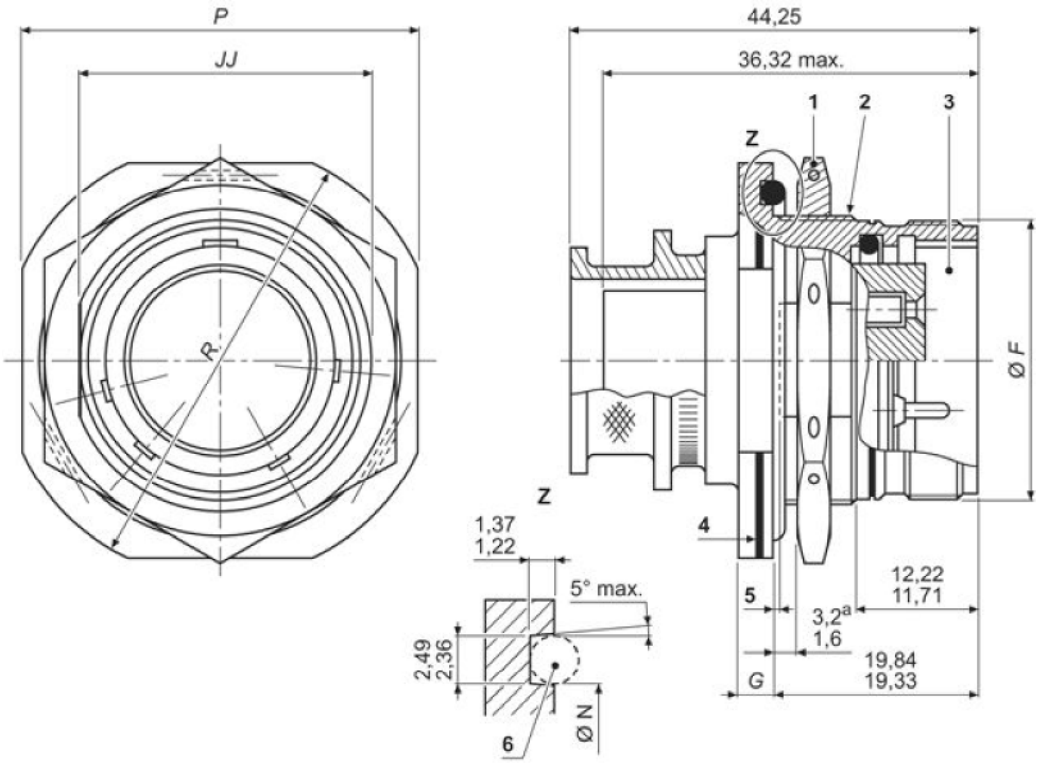
For the purposes of this document, the terms and definitions given in EN 2997-001:2006 apply.

4 Required characteristics

4.1 General

See Figure 1 and Table 1.

Dimensions are in millimetres. They apply after surface treatment.



Key

1 See EN 2997-012.
2 Thread K
3 See EN 2997-001.
4 Blue colour band minimum width 0,64
5 End of flat 0,13 max.
6 See EN 2997-013.

NOTE Cable entry internal and external dimensions can be found in EN 2997-001.

Figure 1

Table 1

Housing size	*F* max.	*G*	*K* **Thread** class 2A [a]	*N*	*P*	*R*	*JJ*	**Mass** [b] g max.	
								Stainless steel	**Aluminium alloy**
08	14,27	3,48 2,46	0,6250-25UN	17,02 16,92	24,89 24,10	27,38 26,59	15,14 14,99	—	—
10	17,67	3,48 2,46	0,7500-20UNEF	20,22 20,12	28,04 27,25	30,28 29,49	18,31 18,16	—	—
12	22,22	3,48 2,46	0,9375-20UNEF	24,99 24,89	32,79 32,00	35,05 34,26	23,06 22,91	—	—
14	23,77	3,48 2,46	1,0000-20UNEF	26,57 26,47	35,33 34,54	38,51 37,72	24,66 24,51	—	—
16	26,97	3,48 2,46	1,1250-18UNEF	29,74 29,64	38,51 37,72	41,68 40,89	27,84 27,69	—	—
18	30,15	3,48 2,46	1,2500-18UNEF	32,92 32,82	41,68 40,89	44,86 44,07	30,99 30,84	—	—
20	33,32	3,48 2,46	1,3750-18UNEF	37,64 37,54	44,86 44,07	49,63 48,84	34,16 34,01	—	—
22	36,49	3,76 3,25	1,5000-18UNEF	40,87 40,77	49,63 48,84	52,78 51,99	37,34 37,19	—	—
24	39,67	3,76 3,25	1,6250-18UNEF	43,99 43,89	52,81 52,02	55,42 54,66	40,51 40,36	—	—
28	46,02	3,76 3,25	1,8750-16UNS	50,39 50,29	59,21 58,42	61,82 61,04	46,78 46,63	—	—

[a] ISO 263.

[b] Mass without accessory and without contact.

4.2 Tightening torque of attachment nut

For recommended service use, torque settings to be in accordance with Table 2.

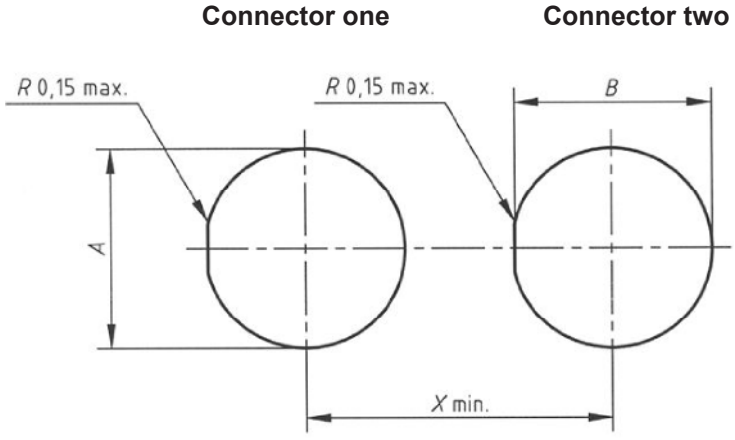
Table 2

Housing size	Torque N.m ± 10 %
08	7
10	10
12	12
14	15
16	18
18	22
20	25
22	27
24	29
28	30

4.3 Panel cut-out

See Figure 2 and Table 3.

Dimensions are in millimetres.



X min. value is calculated as follows: D/2 connector one + D/2 connector two (see Table 3 for value D).

Figure 2

Table 3

Housing size	*A*	*B*	*D* min.
08	16,26 16,00	15,50 15,24	31,70
10	19,43 19,17	18,67 18,41	34,90
12	24,18 23,92	23,42 23,16	39,60
14	25,78 25,52	25,02 24,76	41,25
16	28,96 28,70	28,20 27,94	44,45
18	32,13 31,87	31,25 30,99	47,35
20	35,31 35,05	34,42 34,16	51,90
22	38,48 38,22	37,59 37,33	54,10
24	41,66 41,40	40,77 40,51	57,25
28	48,01 47,75	47,14 46,88	65,25

4.4 Material, surface treatment

See Table 4.

4.5 Main general characteristics

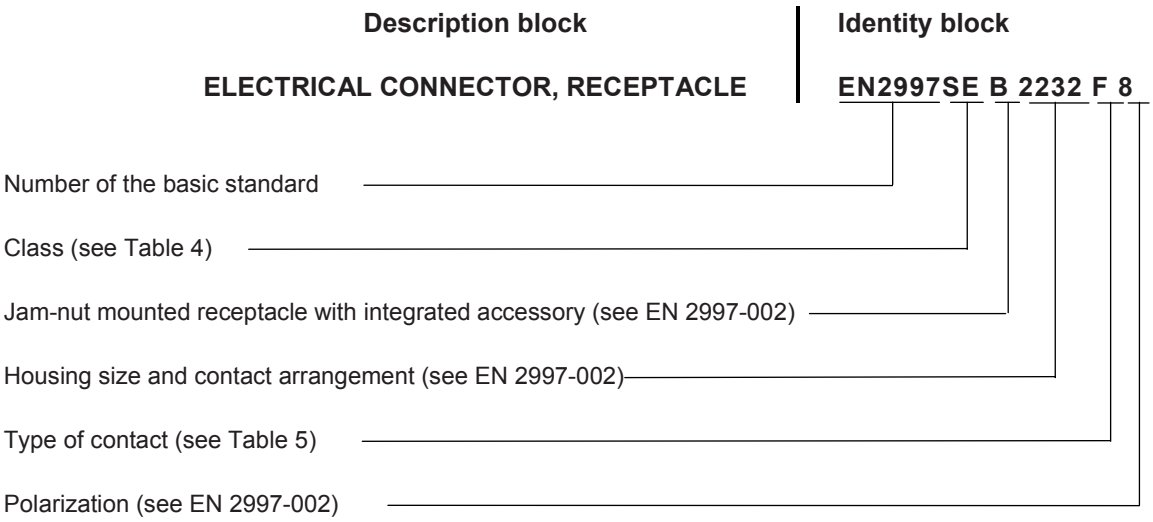
See EN 2997-002.

4.6 Possible combinations of plugs and receptacles

See EN 2997-002.

5 Designation

EXAMPLE



NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

Table 4

Class	Model description
WS	Sealed receptacle with housing (shell) in olive-green cadmium-plated aluminium alloy, conducting finish, 500 h resistance to salt mist, crimp contacts, maximum operating temperature 175 °C continuous
RS	Sealed receptacle with housing (shell) in nickel-plated aluminium alloy, 48 h resistance to salt mist, crimp contacts, maximum operating temperature 200 °C continuous
S	Sealed receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, maximum operating temperature 200 °C continuous
SV	Sealed receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, high vibrations, maximum operating temperature 260 °C peak
SE	Sealed receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, maximum operating temperature 260 °C peak

Table 5

Contacts	**Delivered without contact**	**Delivered with contacts with standard barrels** [a] **EN 3155-XXXX2222 EN 3155-XXXX2020 EN 3155-XXXX1616 EN 3155-XXXX1212**	**Delivered with specific contacts size 20 with special barrel** [a] **EN 3155-XXXX2018** [b]
Male	A	M	C
Female	B	F	D

[a] See EN 3155-002.

[b] Only affects size 20 contact arrangements.

6 Marking

Unless there are other specific contractual requirements, the marking shall include:

— the identity block as defined in Clause 5, except for the 13th (class S) or 14th (all other classes) character which shall be marked according to Table 6;

— the date of manufacture (year, week);

— the manufacturer's name or trade mark.

Table 6

13th or 14th character of the identity block	
For A, M, C [a]	M
For B, F, D [a]	F
[a] See Table 5.	

7 Technical specification

See EN 2997-001.

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